5.3E Worksheet Name _____ Per ____

Prove the identities.

1. $tan^2x - sin^2x = tan^2xsin^2x$

2. $\frac{sint}{1-cost} + \frac{1+cost}{sint} = \frac{2(1+cost)}{sint}$

3. $tan \propto + sec \propto = \frac{cos\propto}{1-sin\propto}$

4. $\frac{1-3cosx-4cos^2x}{sin^2x} = \frac{1-4cosx}{1-cosx}$

Find all solutions on the interval of [0,2π).

5. 2cosxsinx-cosx=0

6. $\sqrt{2}tanxcosx - tanx = 0$

Find all solutions. If the answer is not on the unit circle round your answer to the nearest hundredth.

7. $4\cos^2 x-4\cos x+1=0$

8. $3\sin t=2\cos^2 t$

9. $2\sin^2 x+3\sin x+1=0$

10. $2\cos 2x=1$

11. $\tan\frac{x}{3}=1$

12. $\csc^2 2x=3\csc 2x+4$

Use a graphing utility to approximate the solutions(to three decimal places) on the interval $[0,2\pi)$.

13. $2\sin x+\cos x=0$

14. $\csc^2 x+0.5\cot x=5$

15. $4\cos^2 x-2\sin x+1=0$

16. Find the remaining five trig functions if $\sec\theta=\frac{3}{2}$ and $\sin\theta>0$ using only identities.